UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,408	06/28/2001	Christina Woody Mercier	15436.860	2281

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EXAMINER
JEAN GILLES, JUDE

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 September 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-7 and 9-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-7 and 9-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 June 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

This office action is responsive to communication filed on 09/01/2006.

Response to Amendment

1.   This action is responsive to the application filed on 09/01/2006. Claims 1, and 9,

have been amended. There are no newly added claims. Claim 8 has been cancelled.

Claims 1-7, and 9-18 are pending. Claims 1-7, and 9-18 represent a method and

apparatus for "Creating a datapath; parametizing a set of attributes of the desired

datapath; and constructing the data path."

Response to Arguments

2.   Applicant's arguments with respect to claims 1, 19 and 20 have been carefully

considered, but are not deemed fully persuasive. Applicant's arguments are deemed

moot in view of the following new ground of rejection as explained here below. In the

interview dated 04 August 2006, the examiner specified that claim 1 as presented is too

broad and suggests that terms such as "attributes" must be further described in the

claim to place this case in condition for allowance. Furthermore, The Examiner points

out that claims 8 ,and 9 contain sub-limitations not found in prior searches and would be

allowable if rewritten in independent forms or amended to included subject matter of

independent claim 1. applicants have amended the claims accordingly. However while

updating the search for this reply, the Examiner discover a newly cited art to reject the

invention of amended claim 1(see rejection below).

The other dependent claims stand rejected as articulated in the Previous Office

Action and all objections not addressed in Applicant's response are herein reiterated.

In response to Applicant's arguments, 37 CFR § 1.11(c) requires applicant to "clearly

point out the patentable novelty which he or she thinks the claims present in view of the

state of the art disclosed by the references cited or the objections made. He or she

must show the amendments avoid such references or objections."

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1-7, and 9-18** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Liu et al (hereinafter Liu) U.S. Patent No. 6762997 B1 in view of Heil U.S. Patent

No. 6,944,152 B1.

Regarding **claim 1**, Liu discloses the invention substantially as claimed.

Liu discloses a method of creating a data path for a process executing on a server

coupled to a storage area network (SAN), the SAN providing connectivity between the

server and a storage device in the SAN (*fig. 3, column 5, lines 49-67*), the method

comprising:

constructing a data path that provides said set of attributes (*column 5, lines 2-

12*);

parameterizing a set of attributes for a desired data path between the process

and the storage device of the SAN (see abstract; also see *column 3, lines 11-36;*

column 4, lines 16-30); and

constructing the data path that provides said set of attributes (*column 5, lines 2-*

12), wherein said constructing step further comprises:

searching the SAN for a set of candidate storage devices (see abstract; also

see column 3, lines 53-67);

identifying a candidate data path from the server to each candidate storage

device of said set of candidate storage devices (see column 5, lines 15-48);

evaluating each said candidate data path against the set of attributes to rank

said candidate data paths from a best candidate data path to a least best candidate

data path according to the attributes (see Liu; abstract; column 3, lnes 11-53); and

selecting said best candidate data path as the data path to be constructed by

said constructing step (see abstract; column 1, lines 1-31). However one may argue that

Liu does not specifically disclose a SAN and a server although it teaches a method for

determining the shortest paths between source node and a destination node in a

network which implies a SAN and any of these nodes may be a network server.

In the same field of endeavor, Heil teaches "... *The storage devices 106 connect*

to the switched fabric 102 through conventional communication paths 110. The

communication paths 108 and 110 are preferably conventional serial communication

links. The switched fabric network 100 may be all or part of a local area network

(LAN), wide area network (WAN) or storage area network (SAN) (as shown in FIG. 3)

or may be part of the internal architecture of an individual data processing device (as shown in FIG. 4). The storage devices 106 are any type of storage devices, such as hard drives, but may be interfaces to other types of devices, such as a bridge to a SCSI (Small Computer System Interface) bus, a bridge to a Fibre Channel SAN, a bridge to an Ethernet network, etc. The host device 104 is preferably a computer server (in a SAN) or a host processor (in an individual data processing device)..." (see Heil; column 5, lines 49-66).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Heil's SAN and server storage system with the teachings of Liu, for the purpose of "...determining transmission paths in a multipath network.... "as stated by Liu in lines 6-11 of column 1. By this rationale **claim 1** is rejected.

Regarding **claim 2**, the combination Liu-Heil discloses the method of claim 1 wherein said set of attributes includes a pre-defined template (*see Heil; column 10, lines 14-26*; also see Liu, see abstract; also see *column 3, lines 11-36; column 4, lines 16-30*).

Regarding **claim 3**, the combination Liu-Heil discloses the method of claim 2 wherein said set of attributes includes a data path owner, application, and the server on which the application is executing (*see Heil; column 6, lines 4-19*).

Regarding **claim 4**, the combination Liu-Heil discloses the method of claim 2 wherein said pre-defined template specifies a set of performance, availability, and cost metrics for the desired data path (*see Heil; column 6, lines 4-56*).

Regarding **claim 5**, the combination Liu-Heil discloses the method of claim 4

wherein said set of performance and availability metrics includes at least one of a

number of threads, a security level, and a default volume size and characteristics,

default path characteristics (*see Heil; column 2, lines 61-65*).

Regarding **claim 6**, the combination Liu-Heil discloses the method of claim 1

wherein said parameterizing step includes a step of entering a user-defined attribute for

inclusion in said set of attributes (see Liu; column 4, lines 31-65; *see Heil; fig. 4, item*

156).

Regarding **claim 7**, the combination Liu-Heil discloses the method of claim 6

wherein said entering step includes entry of said user-defined attribute by use of a

graphical user interface coupled to the SAN (see Liu; column 4, lines 31-65; *see Heil;*

fig. 4, item 156).

Regarding **claim 9**, the combination Liu-Heil discloses a method of creating a

data path for a process executing on a server coupled to a storage area network (SAN),

the SAN providing connectivity between the server and a storage device in the SAN

(see Heil; column 5, lines 49-66; figs. 3 and 4), the method comprising:

parameterizing a set of attributes for a desired data path between the

process and the storage device of the SAN (see Liu; abstract; also see *column 3, lines*

11-36; column 4, lines 16-30); and

constructing the data path that provides said set of attributes(see Liu;

column 5, lines 2-12), wherein said constructing step further comprises:

searching the SAN for a set of candidate storage devices (see Liu;

abstract; also see column 3, lines 53-67);

identifying a candidate data path from the server to each candidate

storage device of said set of candidate storage devices (see Liu; column 5,

lines 15-48);

evaluating each said candidate data path against a selection the set of

attributes to rank said candidate data paths from a best candidate data path

to a least best candidate data path according to said set of attributes (see Liu; abstract;

column 3, lines 11-53);

presenting said ranked candidate data paths to a user for selection; and

selecting a user-selected candidate data path as the data path to be

constructed by said constructing step (see Liu; column 4, lines 31-65; *column 5, lines*

2-12; see Heil; fig. 4, item 156).

Regarding **claim 10**, the combination Liu-Heil discloses the method of claim 9

wherein said presenting step recommends said best candidate data path for selection

by said user (see Heil; column 8, lines 1-7)..

Regarding **claim 11**, the combination Liu-Heil discloses the method of claim 10

wherein said best candidate data path is presented as a default selection at said

selecting step (see Heil; column 8, lines 1-67; column 4, lines 31-65).

Regarding **claim 12**, the combination Liu-Heil discloses the method of claim 9

wherein said selection metric includes storage device uptime information (see Heil;

column 8, lines 1-67; column 4, lines 31-65).

Regarding **claim 13**, the combination Liu-Heil discloses the method of claim 9 wherein said selection metric includes performance information (*see Heil; column 6, lines 4-56*).

Regarding **claim 14**, the combination Liu-Heil discloses the method of claim 9 wherein said selection metric includes cost calculation (*see Heil; column 6, lines 4-56*).

Regarding **claim 15**, the combination Liu-Heil discloses the method of claim 9 wherein said selection metric includes best SAN practices information (*see Heil; column 6, lines 4-56*).

Regarding **claim 16**, the combination Liu-Heil discloses the method of claim 9 wherein said selection metric includes learned state and usage information of the SAN(*see Heil; column 6, lines 4-56*).

Regarding **claim 17**, the combination Liu-Heil discloses the method of claim 9 wherein said searching step prequalifies a subset of candidate data paths by finding those candidates that satisfy a pre-created policy prior to application of said evaluating step (see Liu, abstract; column 4, lines 31-65).

Regarding **claim 18**, the combination Liu-Heil discloses the method of claim 1 wherein said constructed data path includes all physical, logical and security component identification and configuration information sufficient to operably link the process to an identified data volume of the SAN (see Heil; column 2, lines 42-67).

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE NON-FINAL**.

Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-9000.
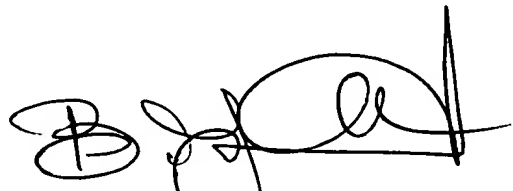
Jude Jean-Gilles

Patent Examiner

Art Unit 2143

JJG

Septembre 28, 2006

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SUPERVISORY PATENT EXAMINER